

Amendment Under 37 C.F.R. § 1.111
Serial No.: 10/705,930
SUGHRUE MION, PLLC Ref: Q77813

REMARKS

This is to affirm that Applicant has elected to prosecute claims 1-5 in the subject application, without traverse. Claims 6 and 7 have been cancelled from the application. Applicant reserves the right to file a divisional application directed to these claims.

Claims 1 and 5 have been rejected under § 102(b) as being anticipated by Schneider (DE 2843333). Also, claims 2-4 have been rejected under § 103(a) as being unpatentable over Schneider in view of Campion, et al. (EP 1 182 176) and Zeng, et al. (U.S. Patent Publication No. 2003/0159468).

By way of this Amendment, claim 1 has been amended to more particularly claim the invention and cancelled the withdrawn claims. It is submitted that, as amended, the claims patentably distinguish over the cited art.

There are some very important technical differences between the claimed invention and the prior art.

One of these differences is that the preform according to Schneider is made of pure quartz, whereas the preform, according to the present invention, consists of silica doped with germanium and/or fluorine (*See*, page 3, last paragraph of the specification).

Another important difference between Schneider and the claimed invention is that the claimed invention relates to a method of reducing the OH-content of the guiding region of silica-based optical waveguides. The introduction of deuterium into the fiber drawing device according to the present invention leads to the preservation of the dangling bonds by the heavy

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deuterium atoms. The present invention leads to the preservation of defect centres by deuterium before hydrogen can even get there.

Schneider does not address the preservation of dangling bonds at defect centres which result from the fiber drawing process. The gasses mentioned in Schneider, like hydrogen, fluor-hydrogen, chlorine-hydrogen, halogens, water and ammonia (*See*, corrected page 6, lines 21-23) will have an adverse effect on the fiber drawing process itself, because these gasses introduce H-atoms, which atoms will have a negative effect on the performance of the optical fiber. The function of these gasses is to obtain a certain refractive index profile without using doped reactant gasses, because these doped reactant gasses will, according to the teachings of Schneider (*See*, corrected page 4, lines 30-32) form a rise in view of introducing impurities and undesired changes in refractive index profile. Therefore, when solving the problem of reducing OH-content, a person of ordinary skill in the art, would never use in a fiber drawing process the gasses as suggested by Schneider.

Further, according to the method recited in claim 1, the deuterium is injected into the drawing furnace (see page 4, line 7 and Figure, i.e. chamber 9 in oven 1). Schneider does not disclose the specific location of injection. In fact, Schneider is concerned with high pressure and temperature diffusion (see claim 1 of DE 28 433 33, line 8-9 "hohen Temperaturen und Drucken" means high temperatures and pressures). In this context, Applicant refers to page 8, line 34- page 9, line 2, wherein a temperature of 900 C and a pressure of 1000 bar is applied in an autoclave, wherein an already manufactured optical fiber is present. An autoclave does not

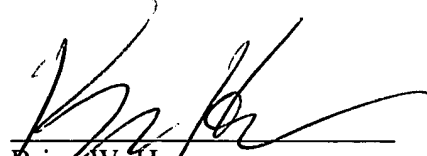
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have anything in common with a reduced atmospheric pressure operating drawing furnace,
wherein a solid preform is melted at its end tip, according to the present invention.

In view of the foregoing, it is submitted that all claims pending in the application are allowable and the application is in condition for allowance. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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